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Country Market Survey

Mini and Micro Computer Systems

France

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U.S. DEPARTMENT OF COMMERCE
International Trade Administration

After a relatively slow start, the French market for mini and micro computer systems is forecast to show tremendous growth of more than 24 percent per annum, climbing from $1.6 billion in 1983 to more than $3.8 billion by 1987[1] (see table 1 and figure 1). With the encouragement and assistance of its Government, France is moving swiftly into the age of what is known locally as "informatique." After several years of recession and slow profitability, computerization is seen as the key to holding down labor costs, boosting productivity, improving quality control, and making more efficient use of management time.

While the market for mainframes, valued at some $2.5 billion in 1983, is expected to remain robust, mini and microcomputer systems and related peripherals will be crucial to spreading the benefits of automation throughout the economy and into the household. Mainframes, which made up 70 percent of the total market in 1983, are expected to see their share dwindle to 57 percent by 1987 (see figure 2).

Despite persistent, aggressive efforts to develop an independent computer industry, American manufacturers dominate nearly all aspects of the French hardware market (see table 2). From the early days of computing in France, U.S. firms have taken the leading hardware supply role, which they consolidated by establishing local manufacturing plants and extensive training programs for French data processing personnel. For 1985, shipments of mini and micro systems from the United States was forecast to amount to more than $1 billion, representing about 42 percent of the projected market. In addition, up to 60 percent of the $2 billion in local production predicted for 1987 is expected to come from U.S.-owned French subsidiaries.

Demand for minicomputers is sustained by the growing numbers of mainframe users now able to find greater processing power for less money in the current generation of minis.

- Sales of **upper level minicomputers** are forecast to grow some 20 percent per annum through 1987. Market losses to increasingly powerful small minis and micros have been more than offset by the influx of former mainframe buyers. In addition, strong demand is expected from the industrial sector for CAD/CAM, process control, flexible manufacturing, and automated production.
- A similar downmarket movement characterizes the market for **lower level minicomputers.** Despite a loss of sales to micro systems, market growth of about 14 percent per annum is predicted as buyers in the financial/insurance, retail/wholesale, education/research, and manufacturing sectors take advantage of the improved performance offered by lower level minis.

Table 1.—France: The market[1] for mini and micro computer systems[2] 1983 and projected 1987

(in millions of U.S. dollars)

	1983	1987
Minicomputers—upper level		
Production	167	300
Imports	159	317
Exports	63	100
Market size	263	517
Minicomputers—lower level		
Production	336	505
Imports	314	516
Exports	133	175
Market size	517	846
Microcomputers—desktop/business		
Production	31	90
Imports	169	534
Exports	16	35
Market size	184	589
Microcomputers—transportable/professional		
Production	24	110
Imports	137	332
Exports	8	50
Market size	153	392
Microcomputers—home/hobby		
Production	5	70
Imports	29	185
Exports	2	30
Market size	32	225
Peripherals—auxiliary storage equipment[3]		
Production	154	352
Imports	59	138
Exports	37	90
Market size	176	400
Peripherals—input and output devices[3]		
Production	167	395
Imports	60	200
Exports	46	110
Market size	181	485
Peripherals—data communications equipment[3]		
Production	77	260
Imports	96	245
Exports	40	100
Market size	133	405
Totals		
Production	961	2,082
Imports	1,023	2,467
Exports	345	690
Market size	1,639	3,859

[1] Size of market equals production (ex factory value) plus imports (c.i.f.) minus exports (f.o.b.). Figures include leased equipment counted at its market value as if sold outright in the initial year of lease. Parts are not included.

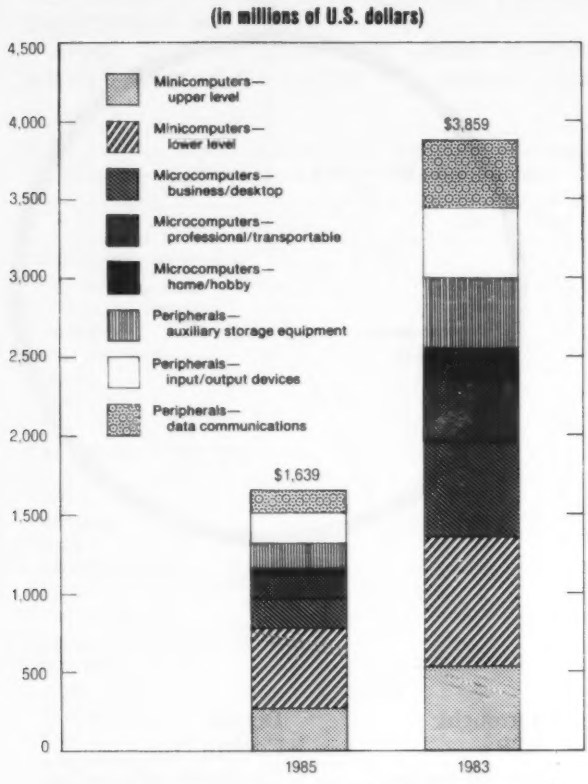
[2] Computer size is based on purchase price, as follows: upper level minicomputers, more than $50,000; lower level minicomputers, $10,000-$50,000; desktop/business microcomputers, $5,000-$10,000; transportable/professional microcomputers, $1,000-$5,000; and home/hobby microcomputers, less than $1,000.

[3] Excluding equipment sold as components of integrated computer systems.

Source: International Trade Administration, U.S. and Foreign Commercial Service research report, "The Market for Mini and Micro Computer Systems in France" (see Additional Information box). Figures in this report are based on data gathered in France, including available government statistics, industry reports, and trade source estimates and projections.

[1] All values are shown in U.S. dollars. Local currency data for all years are converted at the exchange rate of US $1 = 8.143 French francs. Values for years through 1983 are expressed in current rather than constant dollars/prices; values for 1984 and subsequent years are expressed in 1983 constant dollars/prices.

Figure 1
France: The market for mini and micro computer systems
1983 and projected 1985



Source: International Trade Administration, Office of Trade Information Services research report.

While France has been slower to adopt the microcomputer than most other European countries, it is now making up lost ground as evidenced in all segments of the micro market

- A more than threefold expansion is predicted in the market for **business/desktop micros** between 1983 and 1987, to $589 million in the latter year. No longer the choice only of decentralized offices, these units are increasingly bought by professionals and mid-level executives requiring stand-alone or local area network (LAN) linked processing capability. Applications are diverse, ranging from financial analysis and word processing to graphics and product design.
- France's thousands of small independent businesses are said to drive the market for **professional/transportable** microcomputers, which is forecast to reach $392 million by 1987. Faced with Government-mandated paperwork, proprietors and managers increasingly recognize the usefulness of these micros for financial control, purchasing inventory, product planning, and sales and marketing.
- Representing the fastest growing market of all, **home/hobby microcomputers** have now taken off in France due to the belated creation of a distribution network capable of offering the right service, product selection, software, and after-sales support. From just $32 million in 1983, sales are projected to explode to some $225 million by 1987, averaging more than 60 percent annual growth. Games have become a craze, with locally developed software in ample supply. However, French consumers also buy micros for word processing and home accounting and will pass over the cheaper models to get such features.

Sales of all kinds of mini and micro peripherals are expected to expand rapidly. Not only does the expansion of the installed base provide a natural boost to the market for add-on equipment, the growing sophistication of French computer users creates a demand for peripherals designed to facilitate new processing tasks. Sales of peripherals for micros were double those for minis in 1983, and the ratio is expected to exceed 3 to 1 by 1987 as a result of 30 percent average annual growth in micro add-ons.

- The market for **auxiliary storage equipment,** valued at $176 million in 1983, is projected to climb to $400 million in 1987. A slow start to the market, coupled with a tendency for buyers to underestimate their storage requirements, is expected to keep sales rising. Many French users have not yet developed an awareness of the need for archival back-up of important data.
- Sales of **input/output (I/O) devices** are growing some 28 percent a year, a rate they are forecast to sustain through 1987, when a $485 million market is forecast. Add-on I/O peripherals are widely expected to become more popular at all user levels as LANs and data communications extend processing power throughout user organizations.
- France's remarkable overhaul of its entire telecommunications service should help advance sales of **data communications peripherals** more than 30 percent per annum through 1987. Voice traffic will be joined by a progressively higher volume of data transmission, bringing such facilities as facsimile, electronic funds transfer (EFT), communicating word processing, and teletex into everyday use at all levels of commerce, Government, and industry. This familiarization with data communications should make microcomputer users more receptive to communications as a normal extension of their computer use. Although sales of datacom peripherals for minis exceeded those for micros in 1983, the latter are expected to make up over 60 percent of the market by 1987.

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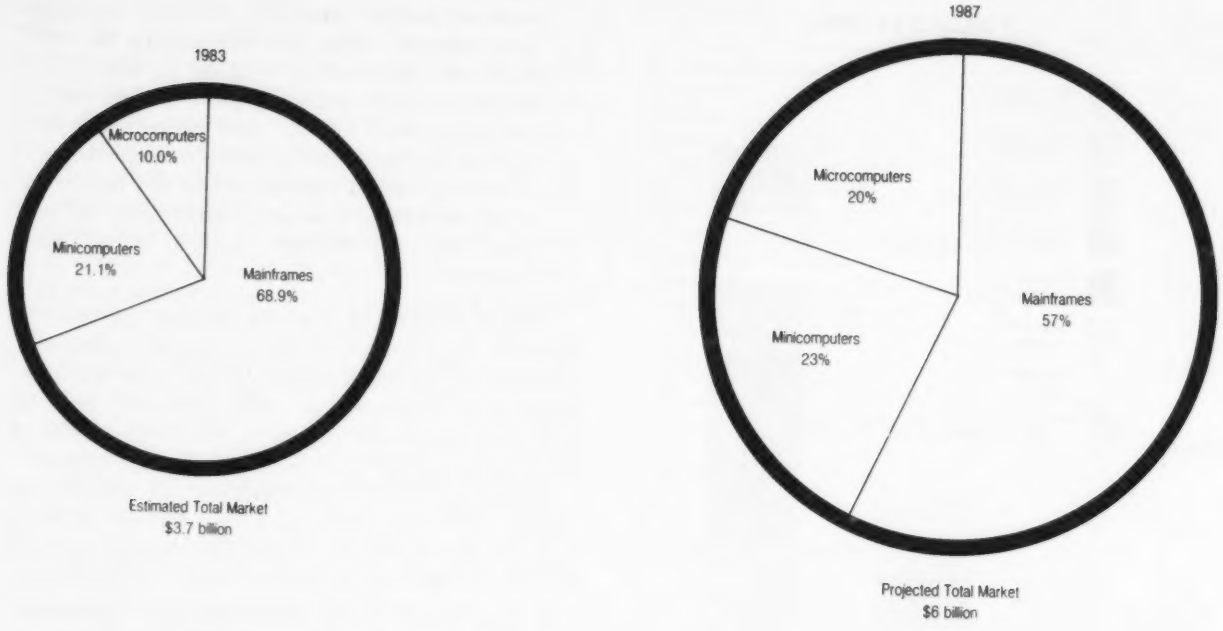
Figure 2
France: The market for minicomputers, microcomputers, and mainframes
1983 and projected 1988



Source: International Trade Administration, Office of Trade Information Services research report.

Competitive Environment

In 1983, imports of minis, micros, and related peripherals represented 62 percent of the market. Despite frantic efforts by domestic manufacturers to take a larger portion of the home market, the import role may expand over the next few years.

U.S. suppliers.—American manufacturers enjoy a dual advantage in the French market.

(1) Direct shipments from the United States captured 64 percent of imports and 40 percent of the overall market in 1983.

(2) U.S. subsidiaries produce most of France's domestically built mainframes and minis, and may do so soon in microcomputers.

Most of the large multinationals use France as a springboard for European Economic Community (EEC) sales. The long-time presence of American companies on the French market, coupled with their reputation for technical competence and proven products, has raised U.S. shipments to their current level and will continue to bolster their market share. The market is characterized by brand loyalty, which helps prominent U.S. firms win repeat sales as well as upgrades and peripheral add-ons.

Leading American competitors include all the major multinationals. IBM dominates the markets for minis as well as mainframes and has also solidly established its leadership of the microcomputer field with its PC. Other prominent suppliers of minicomputers include:

Burroughs	Digital
NCR	Control Data
Hewlett-Packard	Computer Automation
Data General	Prime
Datapoint	General Automation
Perkin-Elmer	Tandem
Sperry Univac	Texas Instruments
Wang	Honeywell

Leading U.S. manufacturers of microcomputers include the same companies prominent in the United States. Those with the largest installed base at the end of 1983 included:

IBM	Apple
Commodore	Atari
Tandy	Digital
Hewlett-Packard	Texas Instruments
Sirius	

Domestic suppliers.—French production of mini and micro systems and peripherals is forecast to rise some 21 percent annually through 1987. Despite aggressive promotion of locally owned firms, about 55 percent of French output comes from the subsidiaries of IBM, Digital, Data General, Hewlett-Packard, Burroughs, NCR, Control Data, Honeywell, and other multinationals

Fully French-owned builders of minicomputers number only 5 and accounted for just 18 percent of the 1984 installed base of minicomputers. Groupe Bull,

the largest of these, would be capable of producing up to 30 percent of French production but is not expected to capture more than 20 percent of the market. Other local suppliers include Thomson-SEMS, Logabax, Intertechnique, and SAGEM.

About 20 local firms build microcomputers, although some of the smaller ones, such as Yrel, Microrep, Omnium, and Welect, are said to resemble OEM assemblers and agents more than full-fledged manufacturers. Most successful domestic producers are firms that also make minis: Groupe Bull, Logabax, and Intertechnique. Also among the leading micro vendors are R2E and Leanord. Despite efforts to develop a strong domestic industry, IBM's strength is such that most French companies are now building IBM-compatibles.

Table 2.—France: Imports of mini and micro computer systems by leading supplier countries, 1983 and projected 1985

	1983	1985
Minicomputers—upper level		
United States	104	125
Italy	19	23
Germany	15	18
United Kingdom	2	3
Japan	1	1
Other	18	24
Total	159	194
Minicomputers—lower level		
United States	210	300
Italy	37	42
Germany	24	29
Japan	11	20
United Kingdom	7	8
Other	25	40
Total	314	439
Microcomputers—desktop/business		
United States	108	190
Japan	12	25
Germany	9	14
Italy	7	12
United Kingdom	5	6
Other	28	29
Total	169	276
Microcomputers—transportable/professional		
United States	96	188
Japan	7	25
Italy	4	8
United Kingdom	3	5
The Netherlands	2	3
Other	25	19
Total	137	248
Microcomputers—home/hobby		
United States	19	59
Japan	4	6
United Kingdom	2	2
Germany	1	2
Other	3	4
Total	29	73
Peripherals—auxiliary storage equipment		
United States	30	47
United Kingdom	7	20
Italy	8	12
Germany	2	6
Japan	1	9
Other	11	14
Total	59	108
Peripherals—input and output devices		
United States	24	38
United Kingdom	9	12
Italy	10	15
Germany	4	7
Japan	1	3
Other	12	20
Total	60	95
Peripherals—data communications equipment		
United States	64	130
Germany	8	22
United Kingdom	7	15
Italy	6	13
Japan	2	10
Other	9	20
Total	96	210
Grand Total	1,023	1,643
Totals from the United States	655	1,077

Source: See source notation of table 1.

Third-country suppliers.—The combination of U.S. strength and buy-French policies in the public sector limits opportunities for third-country suppliers. In the minicomputer market, successful vendors include companies from Germany, such as Siemens, Nixdorf, Triumph-Adler, and Kienzle; Italy's Olivetti; and Philips of the Netherlands.

Olivetti has done well in the French market for micros, having the largest installed base (almost 25,000 units) at the end of 1983. The Italian-based multinational, since surpassed by IBM, continues to do well. Other prominent supplier countries include Japan (especially Epson, Sharp, Canon, and NEC) and Germany (Triumph-Adler and Kontron). From the United Kingdom, Sinclair has made substantial inroads with its low-cost home/hobby micros, while ACT, ICL, and Rair have smaller shares.

Major Buyers

Because of the burgeoning demand for automation among professionals and consumers, the role of institutional buyers in the French market is expected to decline. Accounting for 66 percent of the mini and micro computer market in 1983, institutional buyers are forecast to make just over half of 1987 purchases (see table 3).

The market for minicomputers is characterized by the following purchasing patterns:

- Particularly rapid growth (30 percent per annum) is expected from professional sectors, excluding consumers. As a group, these buyers are projected to nearly treble their spending for minicomputers.
- Among institutional buyers, the transportation, communications, and health care sectors all are forseen becoming more reliant on minis.

Table 3.—France: Expenditures[1] for mini and micro computer systems by major institutional and professional/consumer sectors, 1983 and projected 1987

	Minicomputers				Microcomputers			
	1983		1987		1983		1987	
	Number of units	Value ($ millions)	Number of units	Value ($ millions)	Number of units	Value ($ millions)	Number of units	Value ($ millions)
Institutional Sectors								
Government	6,275	138	7,630	191	767	3	2,726	7
Finance and insurance	7,925	170	9,810	245	3,522	14	9,860	25
Manufacturing	8,350	210	11,950	298	1,606	6	6,380	16
Utilities	250	6	900	22	201	1	580	1
Transportation	1,250	28	3,200	80	1,205	5	4,350	11
Communications	1,460	45	3,270	82	730	3	3,480	9
Retailing and wholesaling	3,350	70	5,450	136	4,051	16	13,340	33
Health care	350	9	1,050	26	785	3	1,740	4
Educational establishments	120	3	550	14	2,829	11	10,440	26
Research institutions	25	1	80	2	1,533	6	3,480	9
Other institutional buyers	2,000	10	6,000	124	1,021	5	1,624	4
Subtotal	31,355	690	49,890	1,220	18,250	73	58,000	145
Professional/consumer sectors								
Physicians	90	2	468	11	2,183	9	8,472	21
Attorneys	112	3	526	13	2,910	12	12,708	32
Accountants	382	9	1,169	29	10,185	41	25,416	64
Management and engineering consultants	965	21	2,280	56	10,185	41	29,652	74
Other professions	673	14	1,345	33	12,368	49	42,360	106
Consumer	23	1	59	1	34,920	139	304,992	762
Subtotal	2,245	50	5,847	143	72,751	291	423,600	1,059
Total	33,600	740	55,737	1,363	91,001	364	481,600	1,204

[1] Excluding costs of software, hardware maintenance, sales commissions, etc.
Source: See source notation of table 1.

Over the 1983-87 period, institutional buyers are projected to approximately double their expenditures on microcomputers, while the professional sector is predicted to multiply its spending three times over. Among the biggest gains are those predicted for the manufacturing, retail/wholesale, and education sectors. The big story, however, is the consumer sector:

- By 1987, consumers are foreseen increasing their purchases to more than five times the 1983 total. As a result, they are expected to make up fully 30 percent of the total mini and micro systems market by the latter year.
- The fact that anticipated consumer purchases far exceed the projected size of the home/hobby micro market indicates that consumers will be buying higher level micros and adding input/output, storage, and data communications peripherals.

Brief profiles are provided for the consumer, manufacturing, and financial and insurance services sectors, which are projected to rank as the first through third largest spenders for minis and micros in 1987.

Consumers.—From just $140 million in 1983, consumer spending on computer hardware is expected to skyrocket to more than $760 million in 1987. Reasons for the surge include the following:

- Although less than 1 percent of France's 15.5 million households owned home computers in 1983, the percentage is expected to climb to 15 percent, or 2.3 million households, by 1987.
- The level of computer literacy is rising rapidly, thanks to expanded formal instruction in schools, a raft of computer magazines, and a wealth of how-to-do-it books.
- Overall awareness of computers is boosted by increased exposure in the popular press.

Popular applications for consumers include games, accounting, spreadsheets, and word processing.

Manufacturing.—Starting from a substantial base, manufacturers are foreseen boosting their purchases 10 percent annually, to $314 million in 1987. French manufacturers with more than 10 employees number over 56,000; in addition, thousands of small family-run businesses with fewer than 10 workers escape official statistics. Industrial output has declined in recent years, but many observers expect a resurgence in production as the effects of recession wear off. Stepped up use of mini and micro computers is all but inevitable as French firms, many of them nationalized, struggle to streamline operations and hold the line on labor costs. Despite growing use of microcomputers, minis will account for all but 5 percent of projected 1987 expenditures.

Financial and insurance services.—The top ten French banks in 1982, including several of the largest in the world, had combined assets of over $550 billion, reaped profits of about $850 million, and

employed a staff of approximately 334,000. The insurance industry, third largest in the world, comprises more than 450 companies. In all, France has about 2,300 banks and insurance establishments, with a workforce of 476,000. The sector is forecast to expand its purchases of minis some 10 percent a year through 1987; of micros, about 16 percent. Growth is conditioned by the following factors:

- Decentralization of processing is expected to lead to growing demand for micros, terminals, and other peripherals.
- Despite their conservative image, French banks have been quick to welcome automation and EFT. Networking and database management are also popular.

Among European countries, France is a leader in installation of automatic tellers and cash dispensers. The Credit Agricole Bank estimated the population of cash dispensers at 7,300 by the end of 1984.

- Major applications include bills of exchange, account reconciliation, loan accounting, foreign exchange, customer information, credit card accounting, interbank transfers, actuarial and broker accounting, and life and health insurance tables.

Market Access

Direct sales by foreign manufacturers to French end users are extremely rare, even for big ticket items. Buyers demand a local presence to ensure service support. All sizes of minis and micros are therefore marketed through an importer/agent. Minis, business micros, and related peripherals are sold directly to business users by importer/agents. Smaller micros are sold to private consumers and small businesses through a dealer network. According to trade estimates, the pattern of distribution is as follows:

Minicomputers		*Microcomputers*	
Importer (nondealer)	73	Specialist dealer	84
Systems house	18	Department store	7
Other	9	Mail order	5
	100%	Other	4
			100%

Unless destined for civil aviation use, imported mini and micro hardware is subject to the EEC external tariff of 5.7 percent. No other barriers to trade exist.

France's electric supply is generally 220 volts AC, 50 cycles. The Metric system is standard. Information on French standards is available from the American National Standards Institute or from:

AFNOR—Association Francaise de Normalisation
Tour Europ
92080 Paris—La Defense

Additional Information

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The Survey summarizes a 129-page International Market Research (IMR) report prepared by Tactical Marketing Limited in France under contract for the U.S. Department of Commerce and reflects the opinions and views of interviewees in France and not necessarily those of the Department of Commerce. The IMR report gives considerably more detail on all the points touched upon in the Survey.

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